Chapter 6

FP Operational Procedures

SECTION I – QM FP COMPANY SECTION OPERATIONS

QM FP COMPANY HEADQUARTERS

6-1. The QM FP Company will be under the command and control of the TAACOM or COSCOM. Divisional and nondivisional elements wanting FP support will send requests through command channels to the DISCOM Support Operations Branch which will be responsible for work-loading the FP. Priority will be given to divisional elements. Nondivisional elements will be supported on a space available-basis. FP support to civil authorities for disaster relief and humanitarian aid will be accomplished IAW FM 100-19. Support for peacekeeping missions will be IAW FM 100-23.

6-2. The QM FP Company Headquarters provides overall command and control, training, administration, and logistical support required to conduct FP support. The Company Headquarters staff can coordinate the operations of one to six FP platoons and modules. The Company HQ maintains communication with the next higher headquarters; provides direct supervision to the support operations and unit maintenance sections; tasks the platoon leaders of the FP modules; directs the planning, setup, and continuous improvement of unit defenses; and maintains responsibility for the unit's training, safety and environmental protection programs.

6-3. To ensure appropriate accountability for module equipment, the commander should inventory and inspect the serviceability of all equipment during setup of the module. Missing, damaged, or unserviceable equipment should be documented and kept on file awaiting report of survey and redeployment of the module to AMC for refurbishment. As equipment becomes damaged or unserviceable during operations, it should be reported and documented so an up-to-date status of all module equipment can be kept. ARs 735-5 and 735-11 give guidance for maintaining property accountability.

6-4. As a critical part of the redeployment process, the commander must clear the hand receipt of all module equipment back to AMC. AMC will arrange transportation for the module from the operating site to a CONUS depot for refurbishment. To clear a hand receipt, a report of survey will be done. The commander will be held responsible for equipment and items which can not be properly accounted for. To facilitate clearing of a hand receipt, the commander should ensure that all module equipment is thoroughly cleaned before it is packed.

All equipment should be inspected for serviceability. Unserviceable equipment should be tagged with a description of the damage or malfunction before they are packed. All module equipment should be inventoried and returned to the original container using the packing list and instructions in the panel of each container's door. All missing, damaged, or unserviceable equipment should be reported and documented. This documentation can then be used to simplify the report of survey and to facilitate the clearing of hand receipt for the module back to AMC.

SUPPORT OPERATIONS SECTION

6-5. The Support Operations Section exercises staff supervision over the supply, maintenance, and field service support operations and advises the commander in these functional areas. The section also provides the coordination and management of all contracting and engineering support operations.

6-6. The purchasing/contracting officer manages the purchase of all military or local items required by the FP Company in conjunction with the platoon leaders. FP may also contract for some degree of support or operations to do the mission. The purchasing/contracting officer coordinates with the MACOM in the review of options for each dependency and determines whether military resources or contract support is the most appropriate and cost effective alternative. The purchasing/contracting officer should ensure that FP needs are detailed and thoroughly stated in the contract documents. If contract administration is handled at a higher level, the purchasing/contracting officer should still ensure that the needs of FP are met.

6-7. The general engineering officer plans and coordinates the site setup of FP. He also supervises all engineering functions for each FP module. The general engineering officer will need to be a FP expert and will oversee critical elements of FP setup and operation. He coordinates and/or manages the proper storage and disposal of graywater and blackwater waste. FMs 5-104, 5-114, and 5-116 provide guidance in performing engineering functions.

6-8. The Operations NCO monitors and supervises section operations and advises the Company HQ on tasks involving FP operations and procedures. The laundry NCO coordinates all laundry, clothing, and shower functions including administrative functions. He reports to and advises the operations NCO. The preventive medicine NCO and specialist coordinate medical support and conduct water and other environmental tests. These soldiers advise the operations NCO about the sanitary status of laundry, shower, latrine, water distribution and storage, and food service operations. They also advise company personnel when sanitary or health conditions are inadequate.

UNIT MAINTENANCE SECTION AND PLATOON MAINTENANCE TEAM

6-9. The unit maintenance section provides unit level maintenance on all organic equipment except COMSEC and communications-electronics equipment**.** One platoon maintenance team will reinforce the unit maintenance section for each FP module assigned to the company. The platoon maintenance team provides unit level maintenance for the platoon's equipment including the FP module itself with the exception of COMSEC and communications-electronic equipment.

FP PLATOON HEADQUARTERS

6-10. The FP Platoon Headquarters provides basic command and control, training, administration, and logistical support for the operations of one FP module under the direction of the QM FP Company Commander. The platoon headquarters will also supervise billeting, and tenant unit in-processing and out-processing functions. Each module comes with a SSP (Appendix C) which contains spare and repair parts to sustain operations for about 30 days. Once operations have begun, it will be necessary to make arrangements within the theater for DS and GS maintenance of equipment and for resupply of operator and unit level spare and repair parts and material.

6-11. The day-to-day operation of FP will depend on METT-T. The tenant units and FP platoon will communicate daily regarding plans and routines of the day. FP should be made aware of any special routines or activities planned by the tenant units. Likewise, the tenant unit should be made aware of the daily schedule of services and equipment available.

6-12. Soldiers arriving at FP will maintain unit integrity. A representative from the platoon headquarters will meet with incoming tenant unit representatives to conduct a briefing concerning camp operations, camp policies, and tenant unit responsibilities. Tenant unit responsibilities are discussed in Section II of this Chapter. A sample in-process brief template is available at Appendix F. Ensure that the in-processing brief covers the following policies:

- Smoking
- Alcohol
- Guest
- Gender Separation
- Quiet Time
- Vehicle Parking
- Other Policies concerning conduct while in the FP compound
- Check Out

6-13. Before a tenant unit occupies a billeting TEMPER, representatives from both the incoming tenant unit and the FP unit conduct a walk-through inspection of the facilities to determine the condition of the TEMPERs and other areas the tenant will occupy. Any and all discrepancies shall be documented and kept on file. The commander of

the tenant unit will make billeting assignments. Tenant unit soldiers will clean and take care of their billeting area and designated areas of the FP camp. FP personnel should ensure that each billet TEMPER remains stocked with the requisite cleaning supplies and that a copy of the camp rules, service schedule, and no smoking notice is posted inside each billeting TEMPER. At least one FP soldier should be assigned to help tenant units in the resolution of billeting-related issues.

6-14. Before departure, the tenant unit should police the billeting TEMPERs and their designated area. A representative of the tenant unit and the FP platoon will conduct a walk-through inspection and record all discrepancies. Any discrepancies not already recorded on the in-processing walk-through inspection document should be assessed. The tenant unit commander should be held accountable for repairs or the cost of repairs. Excessive damage caused by negligence or a lack of discipline should be investigated and punitive action taken as needed. A representative of the tenant unit should also check out with MWR and the laundry section. A tenant unit should not be cleared for departure until all MWR equipment checked out by unit personnel has been accounted for and until all unit personnel laundry has been returned. It is recommended that platoon headquarters develop inspection documents and check out forms to facilitate out-processing.

FACILITIES SUPPORT SECTION

6-15. Facilities Support Section personnel operate and maintain the FP power generation when the organic FP TQG are to be used. When in use, the TQGs will be clustered in groups of three. Operations within each cluster will be rotated every seven hours on a two-on and one-off schedule. This rotation will allow preventive and corrective maintenance to be performed without loss of power to subsystems. A simple switching network is designed into each TQG cluster to facilitate this rotation. If commercial or prime power is used, TQGs should be arranged to provide backup power if an outage, overload, attack, or sabotage occurs.

6-16. The facilities maintenance personnel also maintain climate control equipment such as the environmental control units and ASH heaters; refrigeration units for the 600-cubic-foot prefabricated refrigerators; electrical subsystems and equipment; and the repair of pipes, plumbing fixtures, and equipment. All preventive maintenance should be performed IAW the appropriate technical manuals. A schedule should be maintained by the section leader for performing all applicable preventive maintenance checks.

6-17. Section personnel conduct routine inspections and PMCS of assigned equipment. Facilities support personnel also work with other sections to assist in keeping FP subsystems fully operational. All malfunctions or problems should be documented so a detailed equipment history can be kept for each item. This helps future engineering improvements and provides valuable lessons learned which reduces repair time. A representative of the section should be on duty at all times to respond to malfunctions or problems which may occur.

6-18. **Prime Power Team.** When FP is operating using commercial or prime power, a utilities team (TOE 05530LH00) or an engineer prime power battalion (TOE 05610L000) will be attached to FP. Members of each FP platoon's facilities support section should work closely with the attached element. They should assist and coordinate to maintain uninterrupted electrical service to each module.

FOOD SERVICE SECTION

6-19. The food service section sets up, operates, performs preventive maintenance, and dismantles the food service subsystem. It also provides three cook-prepared meals per day to tenants, attached personnel, and FP personnel. The FP food service subsystem is comparable to a standard garrison kitchen and uses only electrical appliances. Many of the same guidelines given in FM 10-23 can be applied to the operation of the food service subsystem.

6-20. The 96-foot dining TEMPER may seat 120 soldiers at a time. During peak occupancy, it will be necessary to rotate the meal times of all personnel and serve each meal over a minimum of a two-hour period. Meal schedules can be designed to rotate times by section, detachment, or tenant unit dependent on occupancy. Meal schedules should be briefed during in-processing and posted inside each billeting TEMPER. The food service subsystem is cleaned by the food service section and any assigned tenant unit personnel. Soldiers using the dining facility should be required to police their area upon completion of their meal, dispose of uneaten food or refuse in designated containers, and return utensils to the designated area. After completion of the evening meal and a thorough cleaning, the food service dining TEMPER may be used as a convenient location for MWR personnel to show movies or for other large group activities.

6-21. Food service personnel will maintain sanitary conditions at all times. The food service section leader and designated leaders will do routine inspections to ensure all food service personnel and KP personnel are maintaining proper sanitary conditions. FM 21-10 provides specific guidance on field sanitation. Video TVT-10-110 provides specific information of food service sanitation in garrison and field conditions. The preventive medicine NCO will also conduct periodic inspections and tests to ensure food is prepared under sanitary conditions. Sanitary conditions in the food service facilities and operations will be IAW TB MED 530.

6-22. The graywater collection system for the food service subsystem contains an in-line grease trap. Grease collected in the grease trap is contaminated with graywater and is considered hazardous waste. Food service personnel should routinely monitor the grease trap. Grease must be periodically removed and disposed of as hazardous waste by food service personnel. Care should be taken when removing the hazardous waste from the grease trap to prevent personal injury or damage to the environment. Appropriate personal protective equipment should be used. Spills or leaks should be contained and cleaned up. Grease

awaiting proper disposal should be stored in approved containers and labeled as hazardous waste.

LAUNDRY AND SHOWER SECTION

6-23. The laundry and shower section personnel are responsible for the setup, operation, preventive maintenance, and dismantlement of the containerized latrine, containerized batch laundry, and 12-head shower subsystems. The laundry and shower section provides services which allow each soldier one shower per day, unlimited use of the containerized latrine, and one washing of 15 pounds of laundry per three-day period.

6-24. FP uses one CBL that uses two-high capacity commercial washer/extractors and two commercial dryers. The entire CBL subsystem may be operated by one laundry and shower specialist with additional personnel available during designated hours to receive, process, and reissue laundry. Many of the same guidelines outlined in FM 42-414 can be applied to the operations of the FP containerized batch laundry subsystem.

6-25. The laundry and shower section has the capability to clean 15 pounds of laundry for each soldier per three-day period at maximum occupancy with a 24-hour turnaround time. All clothing items, sleeping bags, and sleeping linen are included in a soldier's 15 pounds of laundry. Time must be scheduled for shower towels and food service linens. Operators should periodically monitor the fuel level for the M80 water heater. They should notify the petroleum distribution section when the fuel level reaches 1/3 or less capacity. During less than maximum utilization, laundry and shower section personnel may provide expanded laundry services if needed.

6-26. Only one containerized batch laundry subsystem is used per FP module. It is critical to conduct routine preventive maintenance and to allow time for more complex preventive maintenance procedures. For the smooth operation of the CBL, a schedule for turn in, processing, and return of laundry should be developed, briefed during in-processing, and posted inside each billeting TEMPER.

6-27. The containerized batch laundry produces graywater, which is considered hazardous waste. Personnel must wear appropriate personal protective equipment when working with items contaminated with graywater; spills or leaks should be contained and cleaned up, and graywater awaiting proper disposal should be stored in approved containers and labeled as hazardous waste.

6-28. FP is equipped with four 12-head field shower assemblies. When in operation, each soldier can take one shower per day. Designated laundry and shower section personnel will attend to each shower. These personnel must ensure that towels and soap are available and that facilities are safe, sanitary, and in good working order. Laundry and shower section personnel will clean and sanitize each shower facility daily and as needed, preferably without interfering with scheduled

operations. Operators should periodically monitor the fuel level for the M80 water heater. They must notify the petroleum distribution section when the fuel level reaches 1/3 or less capacity.

6-29. Shower schedules should be made to allow for gender separation, maximum use, time for preventive maintenance, and cleaning. Gender separation should be done by scheduling an amount of time for each gender equivalent to that gender's population within the camp. Times set for each gender should be made throughout the 24-hour period. This schedule should be briefed during in-processing and should be posted in all billeting TEMPERS.

6-30. The shower subsystem produces graywater, which is considered hazardous waste. Personnel must wear appropriate personal protective equipment when working with items contaminated with graywater, spills or leaks should be contained and cleaned up, and graywater awaiting proper disposal should be stored in approved containers and labeled as hazardous waste.

6-31. FP uses four CLs. Laundry and shower section personnel must keep supplies of toilet paper and soap in the latrines, as well as keep the latrines clean. The level of the waste in the blackwater holding tank should be routinely monitored. The laundry and shower section leader should be notified to evacuate the tank once the tank is no more than ¾ full. The general engineering officer assigned to the company's support operations section is responsible for coordinating and supervising the disposal of blackwater. Included in the FP module is a WWVT/T to remove blackwater from the latrine's internal holding tank.

6-32. The containerized latrine produces blackwater, which is considered hazardous waste. Personnel must wear appropriate personal protective equipment when working with items contaminated with blackwater, spills or leaks should be contained and cleaned up, and blackwater awaiting proper disposal should be stored in approved containers and labeled as hazardous waste.

6-33. Each latrine unit should be visited by a Preventive Medicine NCO daily to ensure it is safe, sanitary, and free of insects. If sanitary services are contracted, the Preventive Medicine NCO should be involved in the process to ensure that a desired standard of cleanliness is maintained.

6-34. Latrines may not be used by both genders at the same time. With four operational latrines, latrines may be designated in 25 percent increments, which most closely represent camp population. If this is not sufficient to adequately represent camp population, a "flip sign" may be used so both genders may use the same latrine. Gender designation of latrines should be included in the in-processing brief and signs showing gender designation should be clearly posted on the outside of each latrine. If host nation personnel will be using the latrines, signs should be posted in the host nation language.

6-35. Feminine hygiene products may not be disposed of in latrine toilets. Signs showing this should be posted in latrines designated for

female use. Appropriate waste receptacles must be provided for disposal of these items. The final disposal of these items must be made as appropriate for the AO.

WATER DISTRIBUTION SECTION

6-36. FP uses 20,000-gallon fabric storage tanks coupled with an expansion tank, which maintains positive pressure and automatically operates an electric pump in response to demand. Hypochlorination is done during the filling of the tank and through recirculation of water through an intake/out-take loop, which can be opened or closed to recirculate water through the storage tank. Potable water distribution and storage for FP should be done using the guidance in FM 10-52. Other guidance on water supply, purification, testing, transportation, distribution, and storage can be found in FMs 10-52-1, 10-115, and 55-50.

6-37. The water source for FP can be a QM Water Supply Company (TOE 10469L000), through the use of an approved host nation commercial water system; through contractor delivery from an approved water source; or through on-site wells constructed by an engineering detachment (TOE 05520LE00). All potable water to be used as a source for the FP water distribution and storage system must be tested and certified by the Preventive Medicine NCO from the FP Company support operations section. Source and potable water for FP use will meet the standards in TB MED 577.

6-38. Two water distribution section personnel should be available for duty at all times while potable water storage and distribution sites are in operation. The primary responsibility of these personnel is to maintain proper chlorination levels within each water storage and distribution system, monitor water usage, receive water deliveries from a certified source, conduct water analysis testing, perform preventive maintenance on water storage and distribution equipment, and complete water reports, logs, and forms. Water distribution section personnel will also operate water supply points for the issue of water into the water tank trailers and into other approved containers.

6-39. Security of the water storage and distribution sites should be maintained to prevent the possibility of water source tampering or sabotage. These sites should be a regular part of the patrol of security personnel.

PETROLEUM DISTRIBUTION SECTION

6-40. FP has the capacity to store 40,000 gallons of JP-8/diesel and 500 gallons of MOGAS. FP uses typical FARE for JP-8 and MOGAS bulk fuel operations. Petroleum storage and distribution operations should be conducted using guidance from FM 10-67-1 and MIL-HDBK-200. Bulk fuel for the resupply of FP may be received through general or direct military support or from a certified host nation source. All source fuel used for resupply of the FP petroleum distribution and storage system must be tested and certified by qualified petroleum distribution section

personnel and meet standards outlined in FM 10-67-1 and MIL-HDBK-200.

6-41. Two petroleum distribution section personnel should be available for duty at all times while the bulk fuel storage and distribution sites are in operation. The primary responsibilities of these personnel are to:

- Monitor bulk fuel usage
- Receive bulk fuel deliveries from a certified source
- Conduct petroleum product analysis and testing
- Issue bulk fuel to vehicles and into approved containers
- Perform preventive maintenance on bulk fuel storage and distribution equipment
- Complete bulk fuel reports, logs, and forms.

6-42. Petroleum distribution section personnel should ensure that the bulk fuel distribution and storage system is properly grounded and that all vehicles and containers are properly grounded during fuel issue or delivery. All bulk fuel distribution and storage sites should be designated as no smoking areas and signs should be posted in English and the host nation language. Fire fighting equipment should be conveniently available to the site and a fire extinguisher should always be within easy access during issue and delivery operations. Petroleum products are also considered hazardous waste and a hazard to the environment and to personnel. All leaks should be contained and cleaned up immediately. Personnel should use appropriate personal protective equipment and avoid direct contact with petroleum products.

6-43. Security of the petroleum storage and distribution sites should be maintained to prevent the possibility of tampering or sabotage. These sites should be a regular part of the patrol of security personnel.

6-44. The largest consumer of bulk fuel will be the tactical quiet generators when they are used to provide electrical power. Each generator cluster will employ a 500-gallon collapsible fabric fuel drum to supplement the generator's internal fuel tanks. During normal operations, these fuel drums will require refueling about every three days. Refueling of these drums can be done by tanker delivery via the camp's perimeter roadway. Petroleum distribution personnel are also responsible for the setup, operation, preventive maintenance, and dismantlement of these fuel drums. Section personnel should do routine inspections of these drums to ensure proper operation and environmental protection.

6-45. MOGAS is only required in small quantities for operation of the chillers for the potable water tank trailer**.** Unless otherwise directed, all bulk fuel stores are for FP vehicle and equipment operation and are not to be distributed to tenant units.

ADMINISTRATIVE, CHAPLAIN, MEDICAL, AND MWR FACILITIES

6-46. Administrative, chaplain, medical, and MWR services will be provided by attached personnel from the MACOM, tenant unit personnel, and detachments from other units using TEMPERs. Specific equipment is provided by FP as part of each module. To provide effective services to tenant units, the following considerations should be made when setting up these facilities:

- Make every effort to provide private spaces within the administrative TEMPERs for the discussion of legal, finance, and personal matters, religious counseling, and medical attention.
- Determine the mission, weather, and the needs of the tenant units when planning the setup of MWR fields and the types and quantities of MWR equipment to make available.
- Set up a secure area for the storage of AAFES items. A TRICON may be made available for the storage of AAFES goods and security patrols or watches may be necessary. If AAFES provides telephone and/or ATM, equipment should be located in a visible and well-lighted area to increase personnel safety and security.

6-47. Availability of these services should be included in the in-processing brief delivered to each tenant unit. Signs should be posted inside each billeting TEMPER showing service schedules for all appropriate services.

GRAYWATER COLLECTION AND DISPOSAL

6-48. Graywater disposal may be performed using an approved host nation sewage system, if available. If not available, each FP module is supplied with a graywater collection system that can store about 40,000 gallons of wastewater. Once collected in the graywater collection system, wastewater may be hauled to an approved disposal site or disposed of via field expedient method. Graywater is considered hazardous waste. It should only be disposed of IAW appropriate environmental regulations and directives.

6-49. Expertise exists within the QM FP Company to setup, operate, maintain, and dismantle the graywater collection system. The general engineering officer in FP Company support operations section is responsible for disposing of the graywater. The general engineering officer and the preventive medicine NCO should monitor graywater collection and disposal operations to ensure environmentally safe and sanitary disposal.

BLACKWATER DISPOSAL

6-50. Wastewater collected in the holding tanks of the containerized latrines is called blackwater. It is considered hazardous waste, which is a danger to the environment and to personnel. Care must be taken when disposing of blackwater. Blackwater may be collected from the latrines and disposed of through an approved host nation sewage system, may be hauled to a approved disposal site by military personnel

or civilian contractor, or disposed of using the field expedient method. A WWVT/T is provided as part of each FP module and may be used to collect and properly dispose of blackwater. The general engineering officer in the FP Company support operations section is responsible for disposing of the blackwater disposal. The general engineering officer and the preventive medicine NCO should monitor blackwater collection and disposal operations to ensure environmentally safe and sanitary disposal.

SECTION II – TENANT RESPONSIBILITIES

RESPONSIBILITIES OF TENANT UNITS

6-51. Supported units must clean billeting TEMPERs and the grounds in and around the area assigned. Tenant unit commanders are held accountable for damages or loss imposed by improper or inappropriate use FP facilities by their personnel. Requests for tenant unit assistance or any issues requiring a decision should be sent through the tenant unit chain of command via the FP Company and/or platoon headquarters.

6-52. Tenant units are responsible for their organic equipment and the logistical support required to refit the unit. The QM FP Company commander may also assign tenant units more responsibilities as appropriate during their stay. The following are responsibilities of the tenant unit or are appropriate additional duties which may be assigned:

- **Weapons and Ammunition Storage.** The tenant unit must store all weapons and ammunition. If appropriate to the unit's METT-T, the QM FP Company commander may allocate a TRICON to be used to store the tenant units weapons and ammunition. The tenant unit will continue to be responsible and accountable for the security of their weapons once stored. It may not be safe to store certain types of ammunition in TRICONs during severely hot weather conditions.
- **Organic Equipment Maintenance and Security.** The tenant unit must maintain and secure their organic equipment. The QM FP Company gives the tenant unit an area for parking and maintaining their organic vehicles. The unit is also given ample space for the storage of other types of organic equipment. Also report and assists in any hazardous waste spills incurred during maintenance activities.
- **Logistical Support.** Tenant units maintain their own logistics relationships. Unless otherwise ordered, they will not receive supplies of fuel, water, ammunition, or food, other than prepared meals, from FP stores. Unless otherwise staffed, configured, and equipped, FP will not replenish or refit the unit.
- **Defense.** The QM FP Company can defend against a Level I threat. Threat levels II or III require the assistance of the tenant units and/or other theater assets. During in-processing and as

necessary, tenant units should be informed of their responsibilities for defense of the FP AO and held accountable for the performance of those tasks.

- **Police Call.** Each day after the morning meal, a police call should be held to allow all soldiers to police their billets and designated areas. All refuse or unauthorized items should be picked up and placed into designated containers for disposal. All containers should then be emptied or staged at the designated location for pickup. Soldiers will also conduct a general inspection of their designated billeting TEMPERs. They must ensure guy ropes and stakes are secure and that no damage to the TEMPER or conditions which may potential cause damage to the TEMPER exist. Any damage identified that can not be effectively repaired should be reported to platoon headquarters.
- **Coordination with FP Platoon Headquarters.** The tenant unit commander must keep the FP Company and/or platoon headquarters informed of the unit's actions. A daily briefing should be arranged to allow the tenant unit commander to inform FP Headquarters of their intended activities, to allow FP personnel to communicate any new taskings or information and to resolve issues that may rise.

ATTACHED UNITS

6-53. Dependent upon the mission and configuration, detachments from other units may be required. MWR, medical, and chaplain personnel are not assigned to the QM FP Company and will be assigned as needed to support operations. If the tactical generators are used to provide primary power, a prime power team may also be detached to support operations. Supporting unit personnel will be afforded access to all FP life support functions with the exception of billeting. Living quarters and/or shelter will be the responsibility of the company detailing the detachment. If more convenient and available, the FP Company may accommodate the billeting needs of the detachments. FP will maintain the structures used by these detachments and the detached personnel will maintain the cleanliness and appearance of the structure and the assigned area.

SECTION III – COMMUNICATIONS

ASSETS

6-54. Communications help to support unit missions, to carry out administrative duties, to maintain contact with higher headquarters, to transmit tactical information, and to defend the unit. The commander must set up communications with all elements. Communications help may be needed in setting up an adequate system. Assistance can typically be obtained from the COSCOM or EAC in which the unit is operating. See Figure 6-1 for a typical wire communications diagram

with FP authorized equipment.

6-55. The QM FP Company has the organic communications equipment required to do the mission. Authorized communications equipment includes the AN/VRC 87/88/90-series radios and wire telephone communications with switchboard maintained at the QM FP Company headquarters. Automated data transfer via computer modem and data facsimile capabilities is also available.

6-56. There are many different communications methods. The commander should use those that offer maximum reliability, flexibility, security, and speed with a minimum of effort and material. He should not depend on one method but should use methods that complement each other. Signal equipment can be damaged by electromagnetic pulse. Alternative means of communication should always be available in the event of nuclear warfare. FM 24-1 gives more guidance.

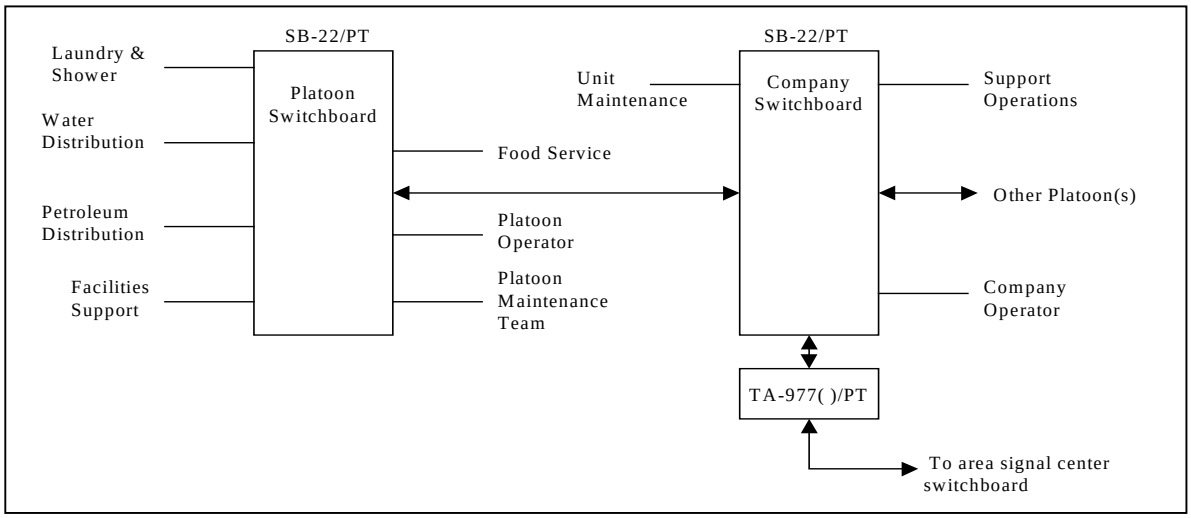

Figure 6-1. Sample FP Wire Communications Diagram

6-57. Wire systems use field wire and cable, telephones, and a switchboard to provide person-to-person conversations. The company headquarters uses this system to provide internal communications 24 hours a day. TC 24-20 gives information on field wire activities and the general characteristics of equipment used with field wire systems.

6-58. Radio is one of the most versatile methods of communication. Since it is wireless, it can operate while the unit is mobile and can handle large volumes of traffic. Radio is the commander's main method of communications with unit elements too far away for contact by local telephone. However, radio is the least secure method of communication and is subject to jamming, interception, deception, and interference. Radio can be severely damaged by electromagnetic pulse resulting from a nuclear detonation. During the blackout following detonation, radio transmission will be impossible. For more information see FMs 24-18

and 25-50.

6-59. Automation involves methods of sending, receiving, processing, or storing of information by an automated capability, such as a computer. An automated capability can process large volumes of information. It can also provide real-time delivery of send and receive data. Automation is easily secured and provides speed, accuracy, improved text and video display, and programmable output and formats. Automated systems require a manual backup system. They are susceptible to electromagnetic pulse, power fluctuations, induced viruses, and magnetic disturbance.

6-60. The manual method consists of sending, receiving, and storing documents by physical capabilities, without using electronic means. This method includes using messengers and a manual record management system. The method is reliable and flexible. It uses assets found in every unit. It is also the most secure means available. The records Management system provides backup for data storage. However, the method requires a large amount of space and is manpower intensive. The messenger is subject to enemy interception as well as constraints of weather, terrain, and time.

6-61. Visual sounds and signals are used to send messages over short distances. These signals are most useful during periods of radio silence. They are used as alarms or warnings, especially of enemy attack, or as a means of sending prearranged messages. Messages transmitted by visual or sound signals are easily misunderstood; therefore, they must be taken in the selection of the means and the message to be conveyed. Message transmitted by this means should be few, prearranged, and simple. Visual signals include road signs, flags, lights, panels, arm and hand, and pyrotechnics. Sound signals include horns, bells, whistles, weapon fire, and sirens. FMs 3-4, 5-36, 21-60, 21-305, 23-30, and 55-312 provide information and guidance on conducting sound and visual signals.

COMMUNICATIONS SECURITY

6-62. Communications security consists of measures to keep unauthorized persons from getting information from the communications system. Personnel should understand and observe COMSEC measures given in AR 380-40. Two measures that should always be used are transmission security and physical security.

6-63. All transmissions are governed by the SOI. SOI is a series of orders issued for technical control and coordination of signal support activities for a command. As a rule, the commander receives only an extract of an SOI; the part needed to manage the unit's nets. Among other things, the SOI may provide a list of EEFI that must not be transmitted. Operations will have a copy of this list. They should monitor transmissions to see if information on the list is being passed. Other ways for making transmissions more secure are:

- Choose a means of communication according to the urgency of the

situation.

- Transmit only when necessary.
- Use low transmitting power when possible.
- Be wary if a radio station's signal strength suddenly changes.
- Plan the message and keep it short as possible.
- Cut out unnecessary talk and maintain communications silence as much as possible.
- Use only authorized codes and ciphers.
- Avoid identifying yourself or others.
- Demand authentication and do not talk to anyone who will not authenticate.

6-64. Operators should be impressed with the need to protect communications equipment from abuse, damage, or capture. They should guard against giving the location of equipment. Phone wires should be put inside the defensive perimeter and along frequently traveled routes. Burying wires and cables whenever possible will protect them against electromagnetic pulse. Proper grounding will also protect electronic equipment during nuclear attack. Radios should be put in well-defended locations. Operators should move transmitters frequently. The commander should be sure to rotate operators so that an enemy will not connect an operator with a specific unit or operation.

UNWANTED SIGNALS

6-56. Radio reception may be hindered, confused, or prevented by unwanted signals. These signals may be unintentional or intentional. Unwanted signals should be reported according to SOI supplemental instructions. Before reporting an unwanted signal, the operator should disconnect the receiving antenna to determine whether or not the signal is from an outside source. The operator should follow procedures in FM 24-33 to determine the nature of the unwanted signal.

6-66. **Unintentional Signals.** Electromagnetic signals caused by sources other than the enemy may interfere with radio reception. These sources include friendly radio signal, faulty electrical components, weather conditions, and nearby generators. This type of unwanted signal is caused by interference.

6-67. **Intentional Signals.** Electronic devices provide ways for the enemy to operate against the unit in combat situations. Through electronic warfare, the enemy attempts to monitor and break up unit communications. The intentional unwanted signals most often encountered include deception, jamming, and squelch capture.

6-68. An operator who suspects interference should notify the commander immediately. The operator should make a report according to SOI supplemental instructions and in the format shown in FM 24-1. The report should be made whether or not the operator is successful in working through the interference. After reviewing the report, the

commander sends it to higher headquarters as required by the SOI.

SECTION IV – DEFENSE

COMMANDER RESPONSIBILITIES

6-69. A FP commander is responsible for the internal defense of the modules and associated operating areas. The object is to form a base defense perimeter to defend against enemy attack. The commander prepares, plans, and supervises an internal defense that ensures the protection of personnel, equipment, and resources from enemy attack.

6-70. The unit must be able to protect itself against a Level I enemy incursion. Because the unit is not trained or equipped to conduct sustained defense against Level II and Level III attacks, it will require augmentation by tenant units and other theater assets to defend at these levels. See Table 6-1 for levels of enemy threat activity. History has shown that the massing of troops provides a convenient enemy target. Transportation routes and personnel delivering soldiers, equipment, and supplies to and from FP may also be at risk of attack. Terrorist-style attacks and the mining of lines of communication are also potential threats which require careful consideration in the setup of an effective defense. All units and/or detachments within the FP compound will maintain the defensive readiness posture appropriate to the AO.

Table 6-1. Level of Enemy Threat Activity

LEVEL	TYPE OF ACTIVITY
I	Activity by enemy controlled agents.
	Sabotage by enemy sympathizers.
	Terrorism.
II	Diversionary and sabotage operations conducted by unconventional forces.
	Raid, ambush, and reconnaissance operations conducted by combat units.
	Special missions or UW missions.
III	Heliborne operations.
	Airborne operations.
	Amphibious operations.
	Ground force deliberate operations.
	Infiltration operations.

DEFENSE PLANNING

6-71. FP will fall under the general force protection plan for the area in which it is operating. This responsibility will be with the MACOM, COSCOM, or JTF. The primary defense provider will be the tenant units. METT-T will determine the defensive posture appropriate for the area.

6-72. The commander plans the defense of the operating area. Higher headquarters S2 and S3 can provide information on the threat from opposing forces in the AO. The advance quartering party should have conducted a preliminary reconnaissance of the area and created a preliminary defensive plan. The commander will perform a secondary reconnaissance of the operating area. He should sketch the area on a map and use this map to create a defense plan. The commander may request more supplies for obstacles and camouflage as well as more ammunition, if necessary.

6-73. Components of an effective base defense plan include procedures for detection, delay, and destruction. Detection efforts include using day and night observation devices, MP and counterintelligence information, and chemical or radiological monitoring devices. Warning systems and procedures to notify all personnel of various alert postures should be considered. Following detection, use delay measures to show the attacker's progress to allow base defense forces to respond. Delay measures include mines, boobytraps, obstacles, and barriers. Following detection and delay, the enemy force must be destroyed. If the threat exceeds available base assets, preplanned delay measures may be seriously tested until additional forces arrive to destroy the threat. FMs 5-103, 7-7, 7-10, 20-3, 20-23, 21-75, 23-14, 23-30, 23-31, 23-67, 44-80, and 90-10 provide information and guidance for planning, setting up, maintaining, and improving defenses.

6-74. The defense plan should also deploy camouflage, cover, concealment, dispersion, light and noise discipline and the use of an alarm system. The size of FP makes it difficult to conceal. However, appropriate steps should be taken to camouflage and conceal structures and equipment as much as possible.

6-75. The commander should spread out the unit as much as possible without slowing operations. Dispersion is secondary to mission accomplishment. Class III supplies should be kept away from other supplies. If possible, Class V supplies should be kept at least 180 meters from other supplies. This makes it harder for the enemy to destroy all of the unit's supplies in one strike.

6-76. Light and noise discipline are important to maintaining good defense. Troops should be trained to work quietly and with little or no light. Flashlights should have colored and filtered lights. TEMPERS should be used for operations if necessary. While the size and population of FP may make the maintenance of light and noise discipline difficult, it should not be overlooked.

6-77. Camouflage and night operations provide for passive air defense.

FP personnel have only small arms weapons. They should be trained to fire their weapons as a group at attacking aircraft as an active air defense measure.

6-78. An alarm system can warn the unit that an attack is imminent. Ideally the unit's defense plan should allow increases in perimeter defense while continuing support of missions. The company should be trained to respond appropriately to threats. However, when attack is imminent, all personnel stop their normal duties and take defensive positions. The commander's first responsibility is to secure the unit. If he cannot defend against enemy activity, he must coordinate with higher headquarters for the appropriate support or to conduct a hasty retreat.

NUCLEAR, BIOLOGICAL, AND CHEMICAL OPERATIONS

6-79. The enemy has the means to conduct operations involving NBC weapons. It can be expected to use them into any battlefield scenario. When this happens, the company must be able to survive an attack, and based on level of damage and/or contamination, continue to do its mission. The commander should choose an officer, a NCO and an enlisted alternate to lead and train NBC defense teams. AR 350-41 establishes the requirement for unit NBC defense teams. The team should be trained to decontaminate troops and equipment, do radiological monitoring and survey, and detect chemical attacks. All officers and NCOs must know and be able to apply the principles of NBC defense as given in FM 3-100. Techniques for mitigating the effects of a NBC attack are given in FMs 3-3 and 3-4.

SECTION V – UNUSUAL OPERATING CONDITIONS

WET WEATHER CONDITIONS

6-80. Extended periods of wet weather or torrential rains may create conditions that negatively effect FP operations. Extended periods of rain may cause the earth to become muddy and make moving in and around the camp difficult for equipment and personnel. In these conditions, sidewalks need to be constructed in areas receiving significant personnel traffic. Tracking of mud into facilities may also cause sanitary issues which require additional consideration.

6-81. Wet conditions may cause TEMPERs to sag and guy ropes and stakes to become loosened. Increase routine inspections of structural integrity for TEMPERs to ensure facilities remain structurally sound and undamaged. Wet conditions can also cause grounding rods for electrical systems to become loosened and grounding to become less than effective. Increase routine inspection of grounding rods to ensure proper grounding and prevent electrical shock.

COLD WEATHER CONDITIONS

6-82. The FP module is not intended for use in freezing conditions. Brief drops into temperatures below freezing can be tolerated, but sustained operations in these conditions require the addition of the separately provided cold weather kit. Subsystems with collapsible fabric tanks will place TEMPERs over the tanks. Insulating material and heat tracing devices will be placed around hoses and connections. ASH is provided to replace the ECUs for TEMPER climate control. These heaters produce greater heating BTUs and function more efficiently in cold weather conditions. The cold weather kit comes with a TM, which contains all of the instructions necessary for the setup, operation, maintenance and dismantlement of the kit.

6-83. Snow must be removed from TEMPER flies promptly to prevent damage or catastrophic failure of the tent. A long-handled snow rake is provided for this task. Snowdrifts against TEMPERs should be removed. If cold weather is anticipated, the TEMPERs should be rearranged to reduce inaccessible deadspace between TEMPERs and/or vestibules. Snow may need to be removed sidewalks and roadways. To prevent damage to positioned equipment, mark their locations with a tall stake or flag. Also ensure that all electrical cables, graywater hoses, or blackwater hoses are buried or protected from damage by snow removal equipment.

EXTREME HEAT OR DESERT CONDITIONS

6-84. Every effort must be made to reduce the effects of the heat and sand on equipment, especially ECUs, fuel supplies, and water supplies. Empty TRICONs can be used to keep equipment out the sun and sand. Use solar shades or tentage wherever possible to reduce the solar heating of water and fuel tanks. Avoid filling tanks to 100 percent capacity to reduce the possibility of heat deterioration, infrared deterioration, and rupture. Electric pumps and equipment powered by small air-cooled internal combustion engines should be shaded to prevent overheating. Water the air filters of internal combustion equipment. Preventive maintenance on these systems should be performed in shorter intervals, if necessary.

6-85. Extreme heat effects the physiology of personnel and increases the likelihood of heat stroke, exhaustion, and dehydration. Schedule tasks and workload to take these conditions under consideration. Make sure soldiers take frequent breaks, use sunscreen, and drink plenty of water to prevent dehydration.

HIGH ELEVATION

6-86. Fuel burning equipment, including internal combustion engines is limited in the altitude at which they may be effectively and efficiently operated. Operation at high elevations may require adjustment of the fuel and air mixtures on some internal combustion engines. The equipment's TM should be checked to determine the procedure for

making necessary adjustments.

6-87. At high elevations, personnel may experience difficulty at increased levels of exertion. Consider the effects of elevation on physiology and tasks. Consider this when you schedule the workload.